

REMARKS

Claims 1-22 are currently pending. Claim 20 has been amended. Reconsideration and allowance of the claims is respectfully requested.

The Applicants would like to thank the Examiner for the indication of the allowable subject matter (of Claims 15-19) made in the outstanding Office Action. The Examiner's prompt indication of the allowability of this subject matter is greatly appreciated.

103 Rejection

Claims 1-8, 11, 12, 20-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,157,116 by Sampietro et al. (referred to hereinafter as "Sampietro") in view of U.S. Patent No. 5,828,768 by Eatwell et al. (referred to hereinafter as "Eatwell"). Applicants have reviewed the cited reference and respectfully submit that the embodiments of the present invention recited by the independent Claims are neither taught nor rendered obvious by Sampietro and Eatwell, alone or in combination.

Currently independent Claim 1 recites, "A data storage device comprising:

- a housing;
- a storage medium;
- a motor drive for moving the storage medium within the housing;
- a transducer for accessing the storage medium wherein said transducer produces a waveform within said housing;
- an actuator for positioning the transducer with respect to the storage medium; and
- noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise."

Sampietro does not teach or suggest “A data storage device comprising: a housing; ... noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise,” (emphasis added) as recited by Claim 1. For example, at Col. 1 lines 36-38 Sampietro states, “The effects of noise in disk drive system 10 are reduced by mounting one or more low frequency oscillating devices 24, 26, 28 and 30 to the housing portion of disk drive system 10” (emphasis added). At Col. 1 lines 44-47, Sampietro states, “The configuration of FIG. 1 shows piezoelectric device 24 mounted to top cover 14, piezoelectric device 26 mounted to a side wall of base housing 12, and piezoelectric devices 28 and 30 mounted to the floor of base housing 12” (emphasis added).

Further, Sampietro even teaches away from “A data storage device comprising: a housing; ... noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise,” (emphasis added). For example, at col. 1 lines 19-21, Sampietro states, “...the components of disk drive system 10 typically fill nearly the entire volume of housing 12, as is known in the art.” Sampietro’s teaching at Col. 1 lines 19-21 combined with the quoted Sampietro’s teachings at Col. 1 lines 36-38 and Col. 1 lines 44-47 demonstrate that Sampietro teaches away from “A data storage device comprising: a housing; ... noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise,” (emphasis added).

Eatwell does not remedy the deficiency in Sampietro in that Eatwell does not teach or suggest “A data storage device comprising: a housing; ... noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise,” (emphasis added) as recited by Claim 1. Eatwell teaches attaching PZT elements, which Eatwell also refers to as “speakers,” to the internal walls of a disk top computer, inside of the display panel, an enclosure that can be populated with electronics, and so on; However, based on Applicants’ review of Eatwell, Eatwell never teaches or suggests “A data storage device comprising: a housing; ... noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise,” (emphasis added).

For example, at Col. 1 lines 37-40 Eatwell states, “The application of piezoelectric elements made from PZT to the internal walls of a disk top computer or to the inside of the display panel of a lap top computer converts these elements into speakers.” In another example, at Col. 1 lines 46-49 Eatwell states, “Another object is to provide an enclosure that can be populated with electronics, such as for a multimedia PC, video monitor, television, laptop computer, radio, etc., while at the same time serving as a loudspeaker.” In a third example, at Col. 1 lines 57-61 Eatwell states, “Still another object is to provide a means for integrating the diaphragm with a mounting frame so that the speaker can be used as a lid to an enclosure. By building the speakers into the computer housing or the display, the multi-media computer can be made considerably more portable.” The Examiner can refer to Col. 1 lines 63-64, Col. 5 lines 57-60, Col. 5 lines 62-65 for other examples of how Eatwell does not teach or suggest “A data storage device comprising: a housing; ... noise reduction means integrated

within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise," (emphasis added).

As already stated, Sampietro teaches away from "A data storage device comprising: a housing; ... noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise," (emphasis added). Further, there has been a long felt need for "A data storage device comprising: a housing; ... noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise," (emphasis added) and there are surprising results from "A data storage device comprising: a housing; ... noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise," (emphasis added).

For example, the instant application, e.g., 10/037,871, states with regards to Eatwell,

U.S. Patent No. 5,828,768 describes a multi-media computer having piezoelectric transducer panels, microphones and a sound card, configured to provide active noise reduction. The microphones are positioned in the internal walls of a desktop computer or to the inside of the display panel of a lap top computer and provide acoustic noise feedback to an electronic circuit that generates a noise cancellation sound that is broadcasted through the speaker to cancel fan, HDD, and floppy disk drive noise. The problem with this approach is that when acoustic noise is mixed with intended sound, the sound can get cancelled or reduced along with the acoustic noise because the electronic circuit may not be able to distinguish between the two. For example, under this approach when a HDD is used in a PTV, the intended TV sound would be cancelled along with the undesirable noise. (emphasis added)

Further, Sampietro and Eatwell, alone or in combination, do not teach or disclose "noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise," (emphasis added)

as recited by Claims 1, 20, 21 and 22 for the reasons set forth in the previous reply to the Office Action mailed August 9, 2005.

The Office Action states, “Sampietro discloses an active noise cancellation system in a disk drive comprising a housing 12, storage medium 16, …” (emphasis added). Applicants respectfully assert that this is a misquote of Claim 1. Further Applicants respectfully assert based on rationale already discussed herein that Sampietro does not teach or suggest “A data storage device comprising: a housing; … noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise,” (emphasis added).

The Office Action states, “Eatwell discloses a personal computer with active noise reduction and piezoelectric speakers...” It appears that the Office Action does not assert that Eatwell teaches “noise reduction means integrated within the housing...” Applicants respectfully agree with the Office Action in this matter.

Independent Claims 20, 21 and 22 are patentable over Sampietro and Eatwell for similar reasons that Claim 1 is patentable over Sampietro and Eatwell. Claims 2-8, 11, and 12 depend on Claim 1 and include all of the limitations that Claim 1 includes. Further these dependent claims include additional limitations which further make these dependent claims patentable. Therefore Claims 2-8, 11, and 12 should be patentable over Sampietro and Eatwell for at least the reasons that Claim 1 is patentable over Sampietro and Eatwell.

Claims 9, 10, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sampietro in view of Eatwell and further in view of U.S. patent publication 2001/0046300 by McLean (referred to hereinafter as “McLean”). McLean does not teach or suggest a modification to either Sampietro or Eatwell that would remedy the deficiencies in Sampietro and Eatwell. More specifically, the cited combination of Sampietro, Eatwell, and McLean do not teach or suggest “noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise” as recited by Claim 1 from which Claims 9, 10, 13 and 14 depend. In fact, the Office Action does not even assert that McLean teaches “noise reduction means integrated within the housing for actively reducing acoustic noise by broadcasting a noise reducing waveform that is generated from said noise.” Therefore, Claims 9, 10, 13, and 14 should be patentable over Sampietro, Eatwell, and McLean, alone or in combination, for at least the reasons given herein.

Conclusion

In light of the above-listed amendments and remarks, Applicants respectfully request allowance of the remaining Claims.

The Examiner is urged to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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